

Optional Features for Outdoor Learning Areas

Rocks and Geology

Description – Rock and geological gardens and outcrops provide opportunities for students to identify sedimentary, metamorphic, and igneous rocks and their properties. When excavating for a new school, rocks can be collected for use in the garden, school landscaping, or features in a walking trail. Natural materials (rocks in place of bricks or cinder blocks) may be vertically stacked to build walls or fences to simulate stratification. (See safety issues below under “challenges”.)

Size – The size depends on the existing area at the proposed location. If a rock outcrop already exists, the school may utilize the outcrop as a learning area for students, teachers, and the community. Schools without existing outcrops can design a rock garden with landscaping timbers. 4 feet by 8 feet is a good size in which an average sized group of students and a teachers can observe.

Location – The rock garden should be within comfortable walking distance, but away from school windows. If rock garden plants will be added, the garden should be in a sunny or semi shady spot.



Materials Needed – Use a variety of rocks from sedimentary, metamorphic, and igneous rock groups. The rocks should include examples of sediments, minerals, and fossils. Install landscaping fabric under the rock garden and fill with pea gravel before placing rocks. This will help control weeds. Rock garden plants (available at local nurseries) are optional.

Labor Needed – Rock collecting during excavation, labor to build boxes, heavy equipment or labor to move large rocks.

Technical Assistance –

Kentucky Geological Survey www.uky.edu/KGS/home.htm
Falls of the Ohio (near Louisville, KY), <http://www.fallsoftheohio.org/>
The Web's Topographic Map, www.topozone.com,
Kentucky Minerals, <http://minerals.usgs.gov/minerals/pubs/state/ky.html>,
Mammoth Cave National Park, <http://www.nps.gov/macac/>
American Cave and Karst Museum, <http://www.cavern.org/>
Devonian Botanic Garden,
<http://www.discoveredmonton.com/devonian/getgro87.html>
North American Rock Garden Society, <http://www.nargs.org/>

Maintenance – Pick up fallen rocks and check for degradation of existing rock surfaces. Check for stray weeds.

Challenges – Safety may be a liability issue if the rock outcrop has a cliff or drop off. Students need to wear hard soled shoes. Smaller rocks that may be picked up and are close to school windows may result in vandalism. Bigger samples are best. Animals may get into the sand in the dig site. Removable, light covers may be made of decking material to cover the sand, yet allow drainage. Please note that rock walls should be added to an outdoor learning area with caution since unstable walls may fall on children and since they create excellent habitat for snakes and other creatures that some teachers and parents may find undesirable around children.